

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/011825

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01J37/09

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 548 899 A (KOBE STEEL LTD) 30 June 1993 (1993-06-30)	1-3, 6-14,16, 17
A	column 6, line 30 - column 11, line 39; figures 2,5a	18,19, 21,22
X	PATENT ABSTRACTS OF JAPAN vol. 0040, no. 28 (E-001), 8 March 1980 (1980-03-08) -& JP 55 003620 A (JEOL LTD), 11 January 1980 (1980-01-11) abstract; figures 4,5a,5b	1,8-11
X	US 5 065 034 A (KAWANAMI YOSHIMI ET AL) 12 November 1991 (1991-11-12)	1-3,6, 16-18,21 19,22
A	column 6, line 47 - column 7, line 2; figures 4,9	
	----- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

& document member of the same patent family

Date of the actual completion of the international search

8 March 2005

Date of mailing of the international search report

23/03/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Zuccatti, S

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/011825

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 899 060 A (LISCHKE BURKHARD) 6 February 1990 (1990-02-06) column 5, line 31 - line 35; figures 3a-d -----	1,7
X	EP 0 280 375 A (STICHTING TECH WETENSCHAPP) 31 August 1988 (1988-08-31) column 3, line 5 - column 5, line 5; figures 1,4 -----	1,2,5-7
X	PATENT ABSTRACTS OF JAPAN vol. 0111, no. 08 (E-495), 4 April 1987 (1987-04-04) -& JP 61 255022 A (NEC CORP), 12 November 1986 (1986-11-12) abstract; figures 1,3 -----	1
A	US 3 610 734 A (WOLLNIK HERMANN ET AL) 5 October 1971 (1971-10-05) figure 5 -----	8-12
A	US 4 963 748 A (SZILAGYI MIKLOS N) 16 October 1990 (1990-10-16) column 4, line 34 - line 45; figure 1 -----	1,16-18, 21
A	EP 0 660 370 A (IBM) 28 June 1995 (1995-06-28) column 8, line 54 - line 57 -----	1,16-22

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/011825

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0548899	A	30-06-1993	JP 3235681 B2 JP 5234559 A DE 69209028 D1 DE 69209028 T2 EP 0548899 A1 US 5350920 A	04-12-2001 10-09-1993 18-04-1996 12-09-1996 30-06-1993 27-09-1994
JP 55003620	A	11-01-1980	NONE	
US 5065034	A	12-11-1991	JP 2295040 A	05-12-1990
US 4899060	A	06-02-1990	EP 0289885 A1 JP 63314832 A	09-11-1988 22-12-1988
EP 0280375	A	31-08-1988	NL 8700496 A AT 64491 T DE 3863199 D1 EP 0280375 A1 GR 3002128 T3 JP 63226864 A US 4880294 A	16-09-1988 15-06-1991 18-07-1991 31-08-1988 30-12-1992 21-09-1988 14-11-1989
JP 61255022	A	12-11-1986	NONE	
US 3610734	A	05-10-1971	DE 1797091 A1 FR 2022123 A5 GB 1248825 A	10-12-1970 31-07-1970 06-10-1971
US 4963748	A	16-10-1990	WO 9201306 A1	23-01-1992
EP 0660370	A	28-06-1995	US 5466904 A CA 2131670 A1 DE 69432098 D1 DE 69432098 T2 EP 0660370 A2 JP 2829942 B2 JP 7201726 A KR 160167 B1 US 5545902 A	14-11-1995 24-06-1995 13-03-2003 23-10-2003 28-06-1995 02-12-1998 04-08-1995 01-12-1998 13-08-1996